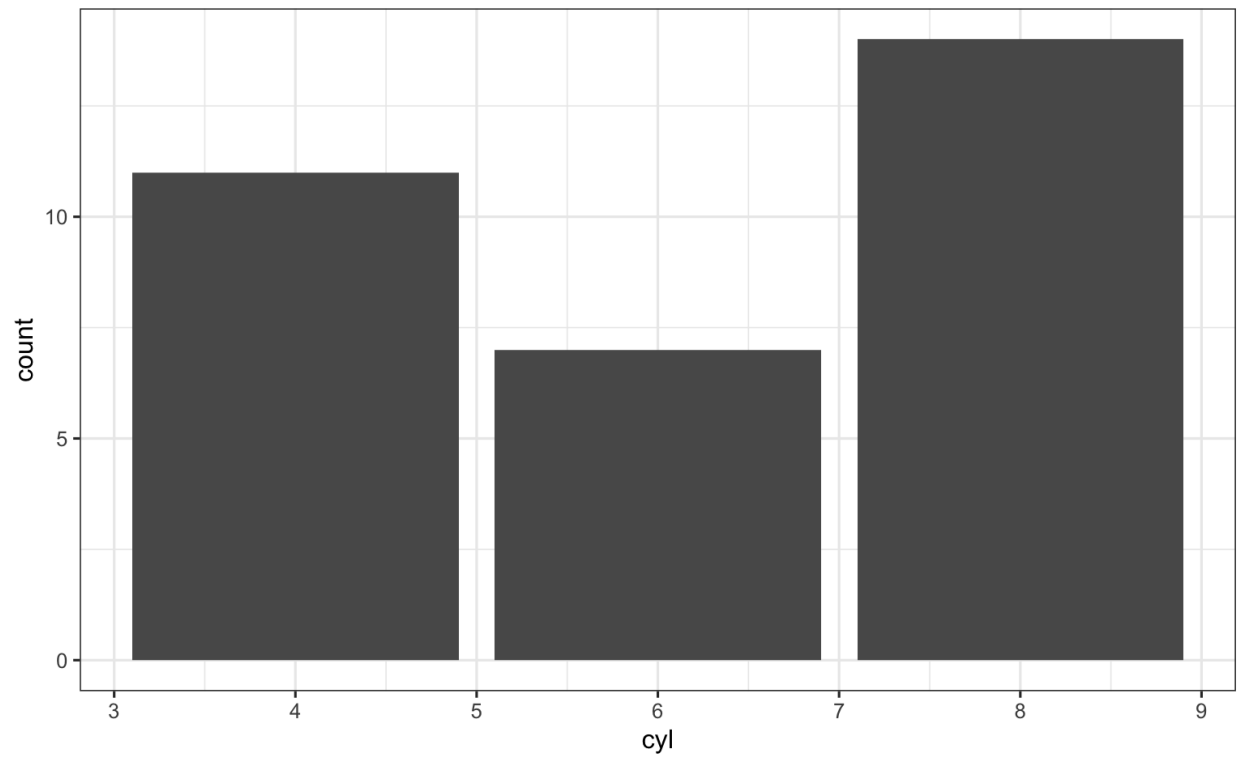


Functions

Total Count

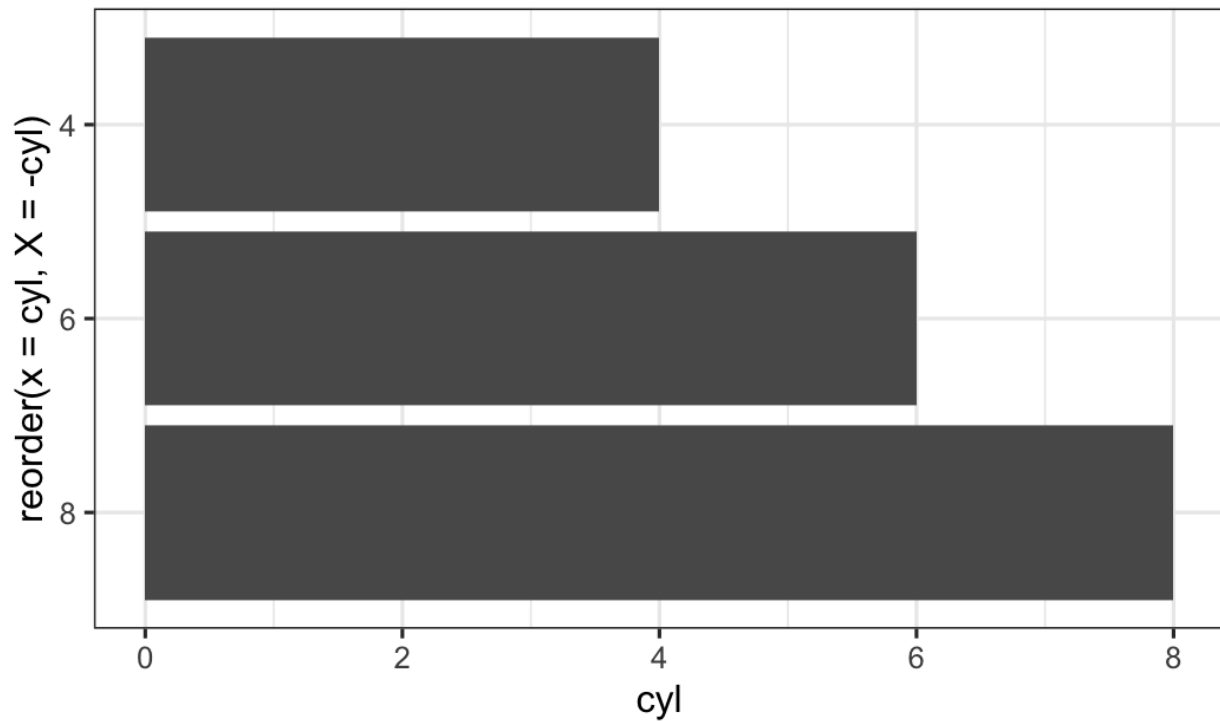
```
ggplot(data = mtcars,  
       mapping = aes(  
         x = cyl)) +  
geom_bar(stat="count")
```

```
ggplot(data = titanic,  
       mapping = aes(x = Sex)) +  
geom_bar(stat="count")
```



Reorder

```
ggplot(data = mtcars,  
  mapping = aes(x = reorder(  
    x = cyl,  
    x= -cyl),  
    y = cyl)) +  
  geom_bar(stat="summary", fun="mean") + coord_flip()
```



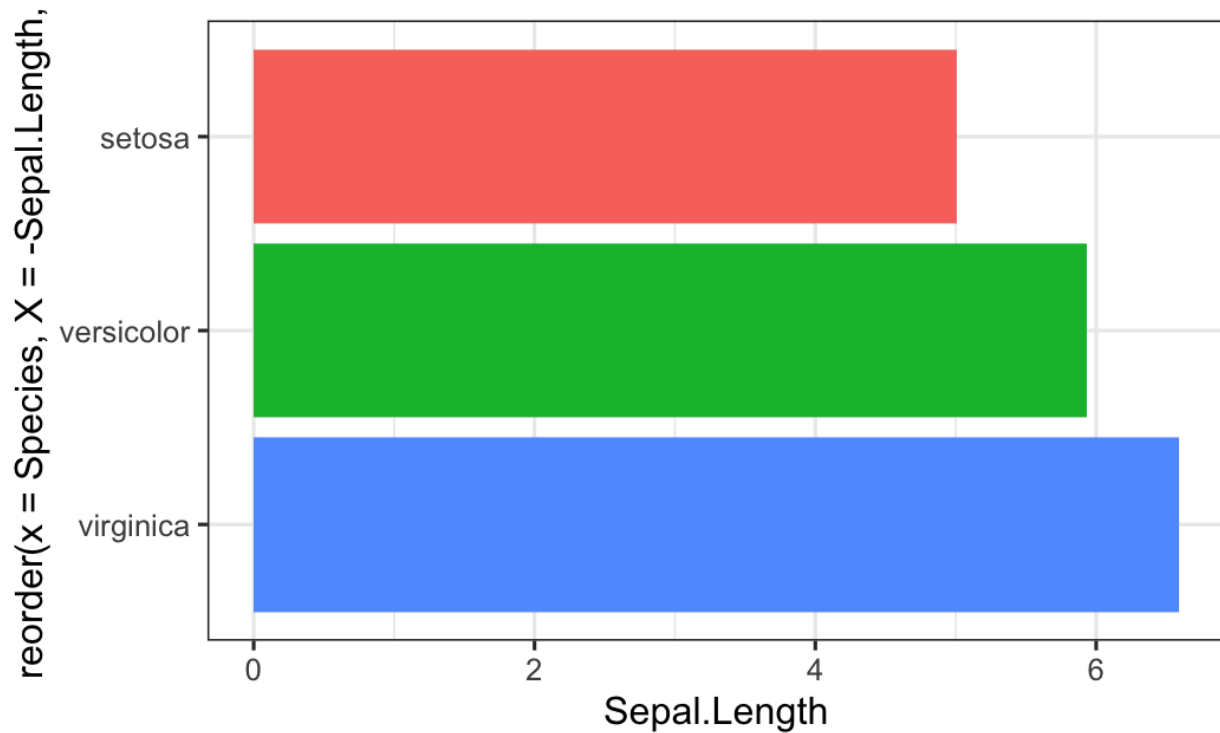
X indicates the order, X = -cyl means reorder in terms of cyl

```
ggplot(data = iris,
  mapping = aes(
    x = reorder(
      x = Species,
      X = -Sepal.Length,

    ),
    fill = Species,
    y = Sepal.Length

  )) +
  geom_bar(stat="summary", fun="mean") + coord_flip() +
  theme(legend.position="None")
```

Reorder as well as Mean



Rolling Mean

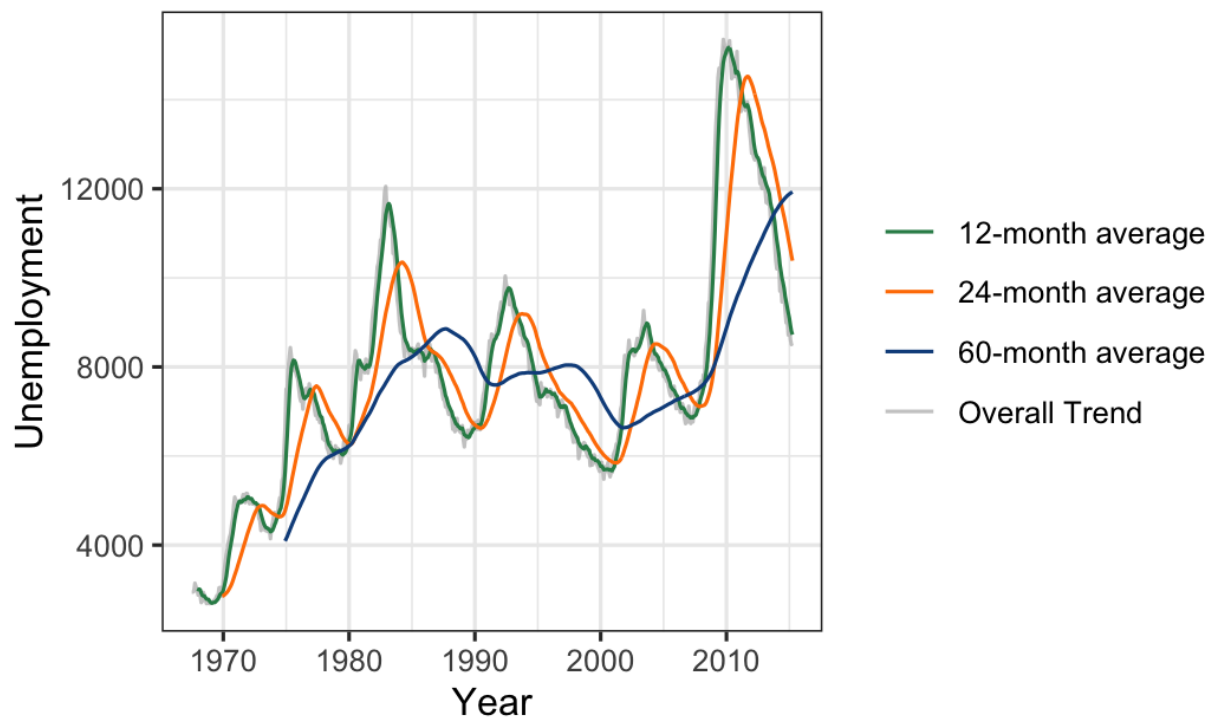
```
economics %>%
  mutate(
    yearly = zoo::rollmean(unemploy,
                           k = 12, fill = NA, align = "right"),
    half_decade = zoo::rollmean(unemploy,
                                 k = 24, fill = NA, align = "right"),
    decade = zoo::rollmean(unemploy,
                            k = 60, fill = NA, align = "right")
  ) %>%
  ggplot(aes(x = date, y = unemploy)) +
    # overall trend
    geom_line(aes(color = "Overall Trend"), alpha = 0.8) +
    # by x months average
    geom_line(aes(y = yearly, color = "12-month average")) +
    geom_line(aes(y = half_decade, color = "24-month average")) +
    geom_line(aes(y = decade, color = "60-month average")) +
```

```

scale_color_manual(values = c("Overall Trend" = "grey", # at
                             "12-month average" = "seagreen",
                             "24-month average" = "darkorange",
                             "60-month average" = "dodgerblue",

                             # legend name
                             name = NULL) +
labs(x = "Year",
     y = "Unemployment")

```

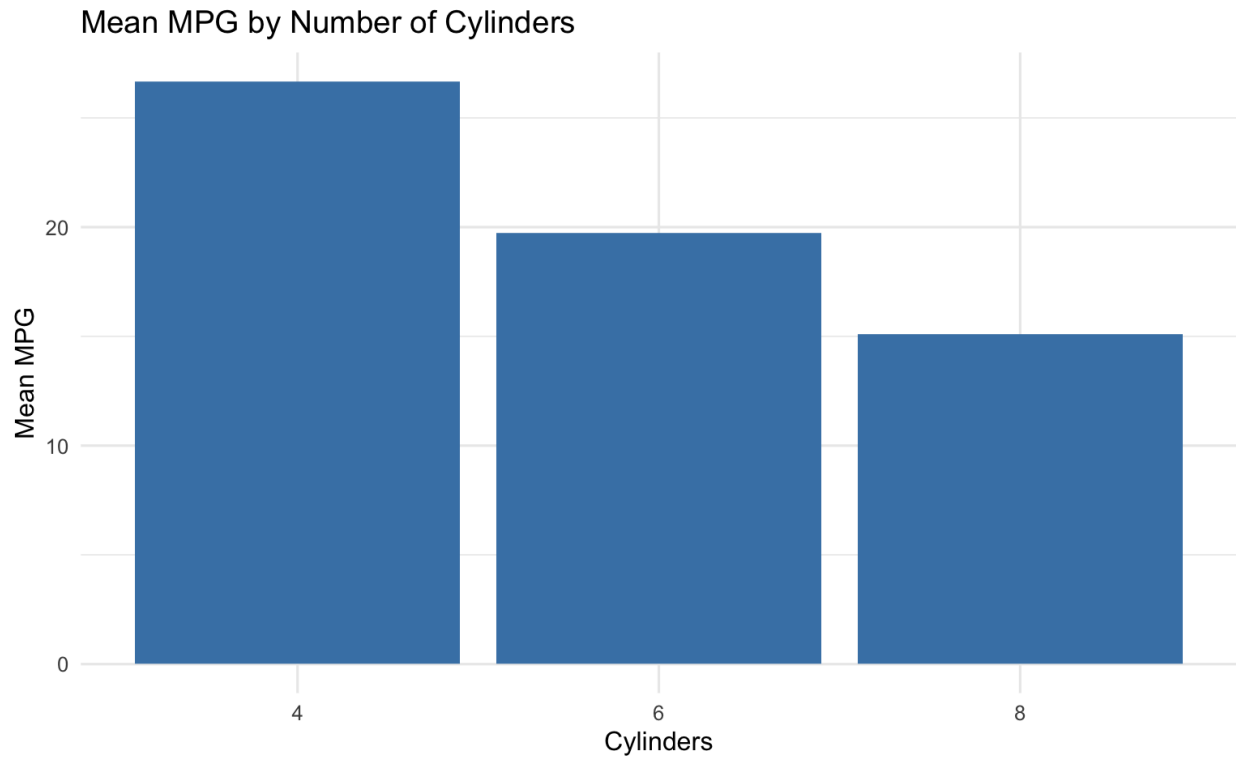


Mean

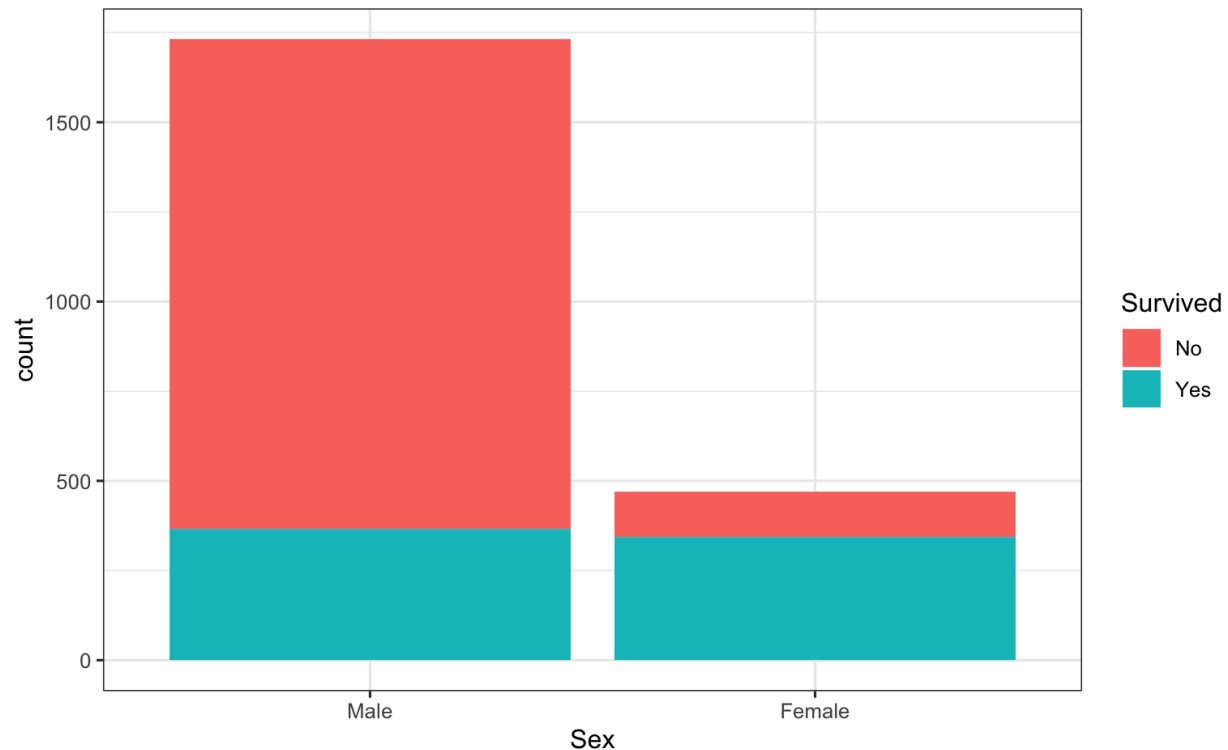
```

ggplot(data = mtcars, aes(x = factor(cyl), y = mpg)) +
  stat_summary(fun = "mean", geom = "bar", fill = "steelblue") +
  labs(x = "Cylinders", y = "Mean MPG", title = "Mean MPG by Number of Cylinders") +
  theme_minimal()

```



```
ggplot(data = titanic,  
       mapping = aes(x = Sex,  
                     fill = Survived)) +  
  geom_bar(stat="count")
```



```
data_diet_1 = ChickWeight[which(ChickWeight$Diet ==1 ),]

aggregated_data <- data_diet_1 %>%
  group_by(Time) %>%
  summarise(mean_weight = mean(weight), sd_weight = sd(weight))

ggplot(data = aggregated_data, aes(x = Time, y = mean_weight)) +
  geom_point() +
  geom_errorbar(aes(ymin = mean_weight - sd_weight, ymax =
mean_weight + sd_weight), width = 0.2) +
  geom_smooth(method = "lm", color = "black", se = FALSE) +
  ggtitle("Weight over time of chicks in Diet 1") +
  theme(legend.position = "None")
```

Weight over time of chicks in Diet 1

